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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,221	06/14/2000	Mark A. Horowitz	RB1-003US	7838
29150	7590	06/14/2004	EXAMINER	
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE, STE 500 SPOKANE, WA 99201			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	14

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,221

Applicant(s)

HOROWITZ ET AL.

Examiner

Phuong Phu

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 5/19/04.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 32-35 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claims 32-35 omits the functional/structural/connectional interrelationships of elements "differential signal conductors" (see claim 32, line7) with other elements (e.g., "transmitter package" (see claim 1), "receiver package" (see claim 1), "plurality of conductors" (see claims 33 and 35), etc.) in order to make a system associated with the claimed method as a complete operative and connective system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-21 and 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art admitted by the applicant in the specification in the instant application, in view of Kish et al (5,282,754), previously cited.

As per claims 1-21, 26-28, 30-33 and 35, see figure 1 and page 2, line 10 to page 3, line 13 of the specification of the instant application, the admitted prior art discloses a method and associated system comprising:

step/means having a first device (100), as claimed;

step/means having a first connector (102), as claimed;

step/means having a second connector (104) coupled to the first connector through a first plurality of conductors, as claimed ; and

step/means having a second device (106) coupled to the second connector through a second plurality of conductors, as claimed.

The admitted prior art does not disclose that said first connector and second connector have alternating pairs of said first plurality of conductors are reversed. However, it is well-recognized in the art that there would be crosstalk happening for signal transmissions through the connector assembly of said first and second connectors due to inductive couplings occurred in these connectors. On the other hand, Kish et al teaches that crosstalk due to electromagnetic coupling occurred between two connector devices connected through plurality of conductors can be eliminated or reduced by reversing alternating pairs of these conductors (see figure 4, and col. 4, lines 43-62). Therefore, it would have obvious for one skilled in the art, when building the admitted prior art system, to reverse alternating pairs of the first plurality of conductors connected between the first and second connectors, as taught by Kish et al, in order to eliminate or reduce crosstalk between these two connectors.

Further regarding to claims 1, 10, 15, 26, 32 and 35, the admitted prior art in view of Kish et al teaches that the alternating pairs of the first plurality of conductors connected between

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the first and second connectors are reversed at positions between the first and second connectors, starting from the first connector to the second connector (see Kish et al, see reverse positions starting from positions (30, 32) of a first connector (10) to positions (52, 54) of a second connector (50) shown in figures 3 and 4, col. 4, lines 15-62). Or in another word, it can be said that there are inherently plural of points among plural of continuous points positioned from positions (30, 32) of a first connector (10) to positions (52, 54) of a second connector (50) wherein said plural of points are at positions closer to the first connector than the second connector (regarding to claims 1, 10, 15 and 26), (therefore, as a result, closer to the first device than the second device (regarding to claim 32)) where said alternating pairs of the first plurality of conductors are being reversed.

Further regarding to claims 9, 11, 27 and 26, the admitted prior art does not disclose that said second connector and second device have alternating pairs of said second plurality of conductors are reversed. However, it is well-recognized in the art that there would be crosstalk happening for signal transmissions through the connector assembly of said second connector and second device due to inductive couplings occurred in them, and furthermore that, pairs of the second plurality of conductors, corresponding to the reversed pairs of the first plurality of conductors, must be reversed so that signals on paths through theses pairs would be driven properly in polarity to the second device. Therefore, it would have obvious further for one skilled in the art, when building the admitted prior art system, to reverse pairs of the second plurality of conductors, corresponding to the reversed pairs of the first plurality of conductors so that crosstalk between the second connector and second device could be eliminated or reduced

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and signals on path through these pairs would be driven properly in polarity to the second device.

Further regarding to claims 7, 13, 21, 31 and 32, the admitted prior art, in view of Kish et al, does not disclose that the first device and second device have the same inductive coefficients. However, it is well-recognized in the art that there would be a mismatch occurs between the first device and second device in the admitted prior art system if these two devices at the two ends do not have the same inductive coefficients, and the mismatch could lead to a degrade for system performance. On the other hand, implementing a system, which has a mismatch problem between two communication ends, with a matching circuit at the receiving end of the two communication ends in order to overcome the mismatch is well-known in the art, and the examiner takes Official Notice. Therefore, it would have been obvious for one skilled in the art to adjust the second device in the admitted prior art system by implementing a matching circuit at the second device in order to match the inductive coefficient of the second device with the one of the first device.

As per claims 29 and 34, the admitted prior art does not disclose step of decoding signals outputted from the second device. However, the admitted prior art method is for driving signals for further processing. It would have been obvious that skilled in the art, for an application, would apply admitted prior art in a decoding system such that admitted prior art would pre-condition received signals and drive to them to a decoder for being decoded.

Response to Arguments

6. Applicant's arguments filed on 5/19/04 have been fully considered but they are not persuasive.

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The applicant mainly argues that the admitted prior art, in view of Kish et al does not discloses the limitations “at least one pair of conductors is reversed at a **position** closer to the first connector than the second connector” (of claim 1), “at least one pair of conductors is reversed at a **position** closer to the first connector than the second connector” (of claim 10), “at least one pair of conductors is reversed at a **position** closer to one of the plurality of connectors than another of the plurality of connectors” (of claim 15), “reversing the polarity of alternating differential signals at a **position** closer to the first connector than the second connector” (of claim 26), and “reversing polarity of alternating pairs of differential signal conductors such that at least one pair of conductors is reversed at a **position** closer to the transmitter package than the receiver package” (of claim 32) because in Kish et al, as shown in figure 4, the crossover position (such that the resulting areas (96) and (100) are substantially equal) must be at the mid-point between the conductor pair 92/94 and 34/36.

The examiner agrees with the applicant that the Kish et al crossover position must be at the mid-point between the conductor pair 92/94 and 34/36 so that the resulting areas (96) and (100) are equal. However, note that the rejections to the claimed are based on the limitations given in the claims, and therefore, the claims are rejected with reasons set forth above in this Office Action. And further note that the claims do not have any limitations to define “a position” (in the above limitations of the claims) particularly as “a **crossover** position” in order to make it distinguishable from the admitted prior art, in view of Kish et al.

Based on the above rationale, it is believed that the limitations of claims are still met and therefore, the rejections are still maintained.

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu

Phuong Phu
06/01/04

Phuong Phu
Primary Examiner
Art Unit 2631

PHUONG PHU
PRIMARY EXAMINER